NOTICE

All drawings located at the end of the document.

000027820

Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

AUG 1 8 1995

95-DOE-14082

Mr. Dave Kuanisto
City of Westminster
4800 West 92nd Avenue
Westminster, CO 80030

Dear Mr. Kuanisto:

Please find enclosed the Jefferson County Remedy Lands Semi-Annual Report for summer, 1995. This report is an update on the revegetation activities conducted by the Department of Energy on property immediately east of Rocky Flats, as a result of the 1985 court Settlement Agreement, McKay vs. the U.S.

If you have any questions, please call me at 966-5921

Sincerely,

R. H. Birk

Robert H. Birk
Operable Unit 3 Manager
Environmental Restoration

Enclosure

SW-SW-A-003352

1/14

cc w/Enclosure:
J. Ahlquist, EM-453, HQ
L. Ekman, EM-453, HQ
C. Gesalman, EM-453, HQ
G. Finstad, NRCS
B. Lavelle, EPA
J. Schieffelin, CDPHE
Admin. Records

cc w/o Enclosures:
J. Roberson, AMER, RFFO
F. Lockhart, ER, RFFO
J. Wienand, ER, RFFO
M. Guillaume, SAIC
S. Hahn, K-H
M. Buddy, RMRS
T. Spence, RMRS

JEFFERSON COUNTY REMEDY LANDS

SEMI-ANNUAL REPORT

SUMMER 1995

ENVIRONMENTAL RESTORATION PROGRAM DIVISION

U. S. DEPARTMENT OF ENERGY
Rocky Flats Field Office
Golden, Colorado

REMEDY LANDS
SEMI-ANNUAL REPORT - SUMMER 1995

INTRODUCTION

This report summarizes revegetation activities performed on the Remedy Lands (formerly referred to as the Jefferson County Remedy Lands) during the first half of 1995 and planned activities for the remainder of 1995. The Remedy Land activities are directed by the 1985 Settlement Agreement, McKay versus the U. S. Department of Energy (DOE). It should be noted that the Jefferson County open space land containing the Remedy Lands acreage was acquired by the City of Westminster from Jefferson County in February 1995. In previous semi-annual reports the Remedy Lands acreage was referred to as the Jefferson County Remedy Lands. In this report, and in future semi-annual reports, the subject Remedy acreage will be referenced as the Remedy Lands.

In addition to requirements under the Settlement Agreement, the DOE is continuing its assessment of offsite area contamination as directed by the Interagency Agreement (IAG) between the DOE, Environmental Protection Agency (EPA), and Colorado Department of Public Health and Environment (CDPHE). The offsite area is identified in the IAG as Operable Unit 3 (OU 3). The Remedy Lands are located within OU 3, east of Indiana Street (Figure 1 and Figure 2). The Remedy Land surface soils were sampled during field sampling activities conducted to determine the nature and extent of contamination and assess the human health risk associated with the contamination. Preliminary soil sampling results for the Remedy Lands were presented to the City of Westminster, the City of Arvada, and to Jefferson County in November 1994. Field soil sampling results, including the Remedy Land sampling results, for the offsite area will be presented in the OU 3 Draft RCRA Facility Investigation/Remedial Investigation (RFI/RI) report in October 1995. The IAG milestone for submittal of the Final OU 3 RFI/RI Report is in June 1996; however; efforts to accelerate the OU 3 project schedule are being made.

BACKGROUND

The 1985 Settlement Agreement outlined a course of remedial action for portions of land containing plutonium concentrations in surface soils above the CDPHE special construction standard (0.9 picocuries per gram - pCi/g). Surface soil contamination was limited to the upper few inches of soil. The remedy involved tilling the contaminated areas in strips to reduce surface plutonium concentrations (through mixing) and stabilizing the areas by revegetating to control wind and water erosion of the soil. The Settlement Agreement states that tilling of the alternate set of strips shall not begin until the initial set of strips are successfully reestablished in native plant species.

An aggressive vegetation program for the initial set of strips was initiated in 1991, which consisted of mechanical mowings to control the height of weeds, harrowing for seedbed preparation, reseeding, and applying hay mulch as needed over the reseeded areas. Figure 2 and Figure 3 illustrate the results of the 1991 revegetation activities on the north and south Remedy Land areas. The 1991 revegetation program also included a weed growth monitoring and control plan.

The success of the 1991 revegetation effort was monitored during the Spring and early Summer of 1992. The monitoring results were presented in the "Remedy Lands Semi-Annual Summer 1992 Report" and indicated that the new seeded species were evident; however, their abundance varied over the remediated acreage. In addition, undesirable weed species were noted in the previously tilled areas that were expected to be a significant competitor to the more desirable seeded species. Subsequent monitoring results presented in the Remedy Land semi-annual reports for 1992 and

1993 also indicated that weed competition appeared to be a significant limiting factor to successful revegetation of the disturbed Remedy Land areas.

A weed control program, consisting of mowing operations to inhibit natural growth cycles/seed production and herbicide application to control specific dominant weed species, was initiated for the effected areas in September 1993. Initial mowing operations were conducted in September 1993, and the initial herbicide application was performed in June 1994. Four undesirable weed species (Canada Thistle, Musk Thistle, Common Mullen, and Toadflax) were treated in 1994 using herbicide with approximately 80 percent effectiveness.

CURRENT ACTIVITIES

A survey of the north and south Remedy Land areas was performed in May 1995 by a contracted weed control specialist to inventory weed species to be considered for herbicidal treatment. Two dominant species were identified for treatment, Canada Thistle and Musk Thistle. Approximately 14 acres of land in the north remedy acreage and 6 acres in the south acreage were observed to be significantly populated by these two weed types. Populations of the Common Mullen and Toadflax species previously treated in June 1994 were sparse in May 1995.

An herbicide application was performed within the designated areas on June 20 and June 22, 1995 to reduce the populations of the targeted weed types listed above. The herbicide application was made by tractor spraying using the herbicide Telar. Telar has been approved by the EPA for this type of application and was determined to be most effective and appropriate for the weed species of concern. The thistle weeds are most vulnerable to this herbicide later in their growth cycle in early June to middle July, when they are more actively growing.

The herbicide was applied to specific areas using a tractor equipped with independently controlled spray booms. Spray from the booms could be turned on and off as necessary to treat only the areas observed to be significantly populated by the weeds of concern. Photographs of the herbicide application equipment and application operations in progress are presented as attachments to this report.

The weed control actions were performed under the control of a DOE-approved Site Specific Health and Safety Plan developed specifically for this work and designed to protect the health of the workers and the public.

The DOE has issued a National Environmental Policy Act (NEPA) Categorical Exclusion Determination (RFO/CX033-92) for the weed control actions as defined in Section D of 10 Code of Federal Regulations 1021. Under this Categorical Exclusion the weed control actions are removed from further NEPA review and documentation due to the relatively benign nature of the actions.

A plant and animal endangered species survey and a migratory bird survey was performed within the north and south Remedy Land areas by the EG&G Ecology and NEPA Division during the week ending June 16, 1995, prior to the herbicide application event. A nest known to have previously been used by a nesting pair of Burrowing Owls was observed intact within the north remedy acreage. A flagging line was placed near the nest to mark a protective buffer and boundary beyond which the subcontractor was instructed not to spray. No other endangered plant or animal species were observed within the north and south Remedy Land areas surveyed. No migratory bird nesting activity was observed within or in the vicinity of the surveyed areas.

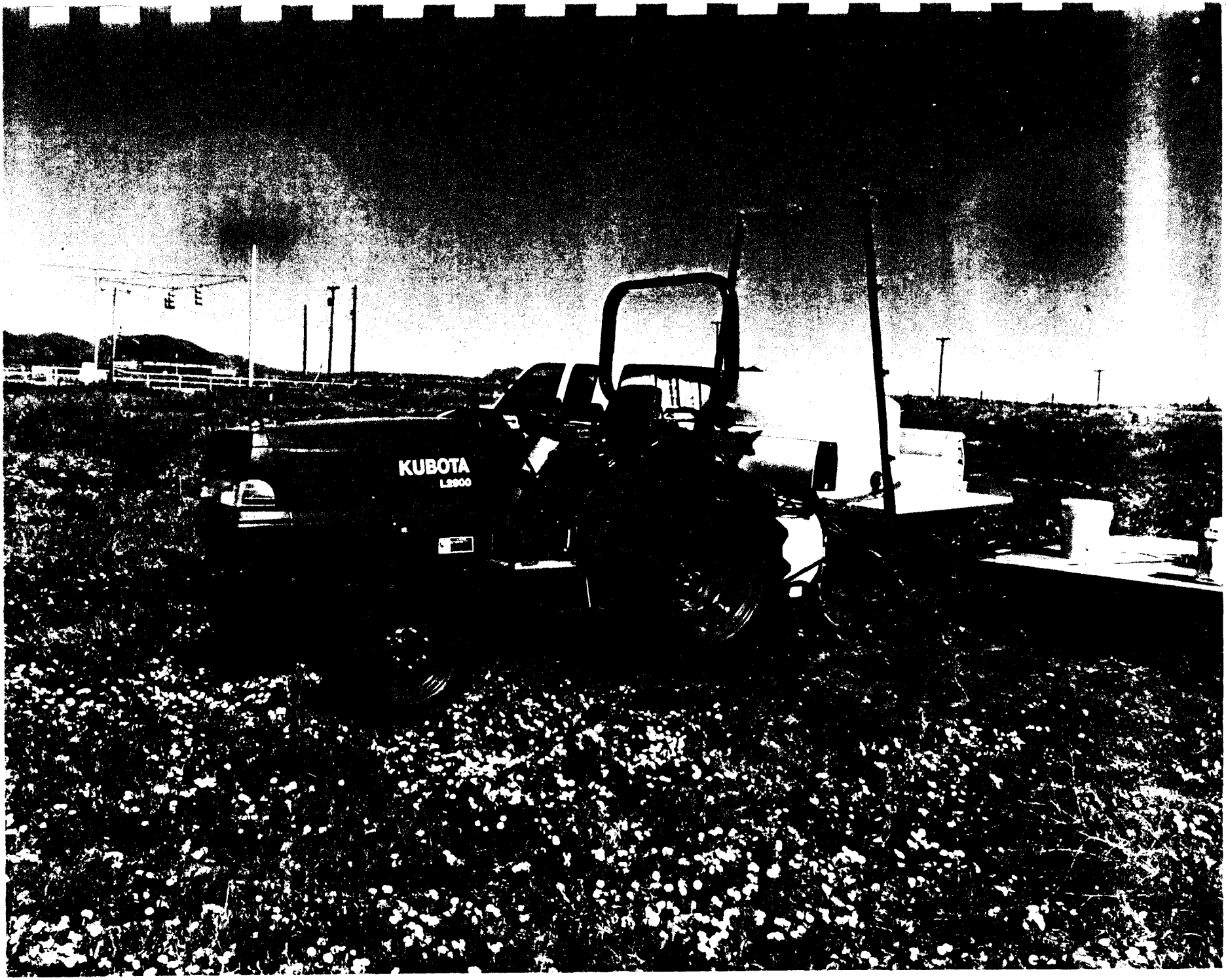
PLANNED FUTURE ACTIVITIES

The weed control program for the previously tilled areas is planned as a three year effort targeting specific weed types and their growth cycles. A follow-up survey of the treated areas is scheduled in early Fall 1995 to evaluate the effectiveness of the Spring 1995 herbicide application. The effectiveness of the Spring herbicide treatment is expected to be from between 80% and 90%. A mowing event may be scheduled in the Fall 1995 to reduce the amount of material that could interfere with additional herbicidal application (planned in Spring 1996).

As previously reported, the ability to schedule future tilling operations to complete the remedy activities is limited by lack of revegetation success. Tilling operations may be resumed following successful reestablishment of native plant species as required by the 1985 Settlement Agreement. It is anticipated that continued efforts at weed control will create more favorable growing conditions for the revegetated grasses. Weed control may continue to be the primary activity and will be successfully implemented before considering another reseeding effort.

FIGURES

PHOTOGRAPHS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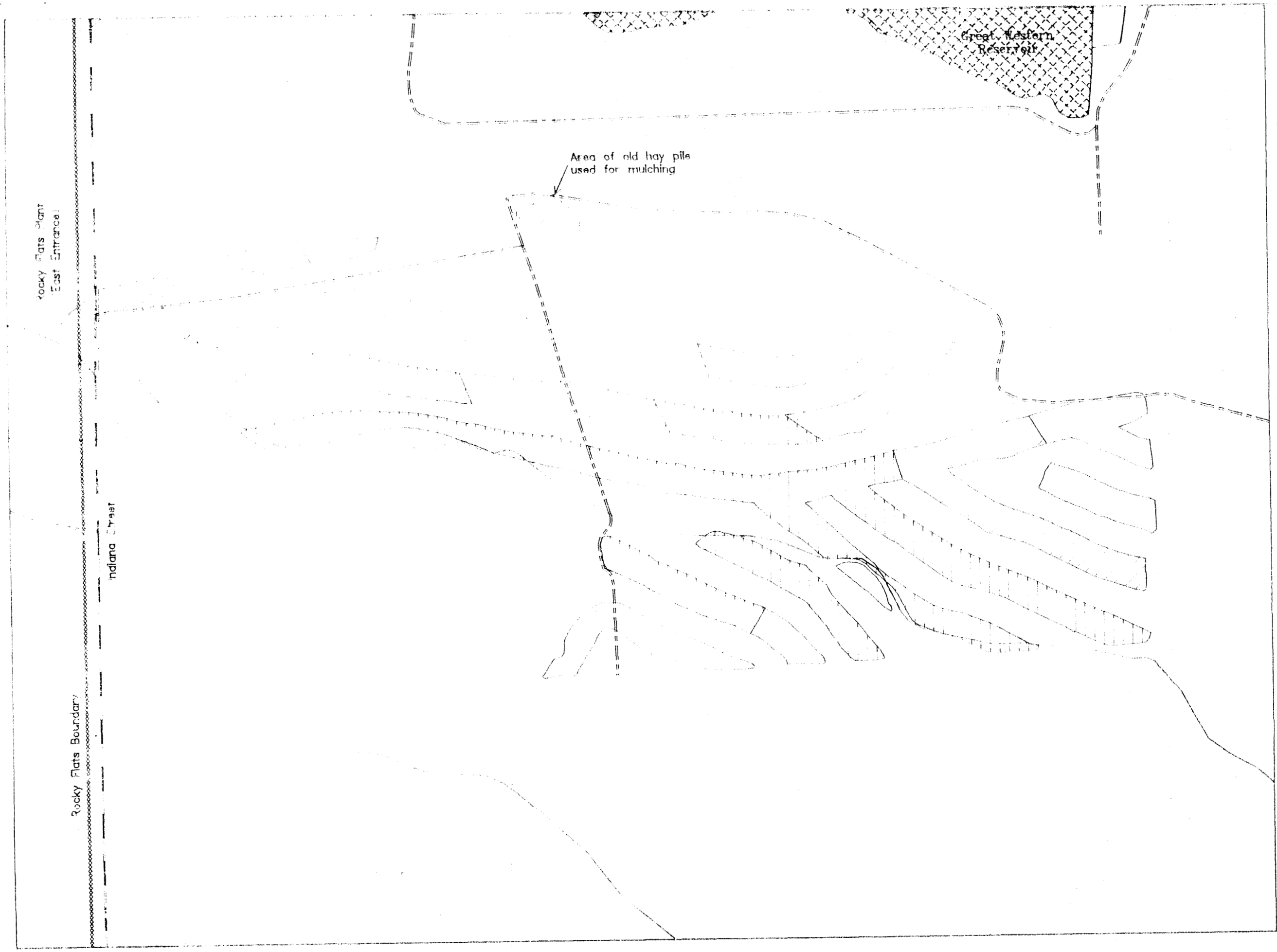

(Figure 1)
Map of North Area (Sec. 7) of Jefferson County Remediation Land Showing Results of Summer 1991 Revegetation Activities

- Streams, ditches, and other drainage features
- Medium duty roads
- Unimproved dirt roads
- Rocky Flats Plant boundary
- Surface water impoundments
- Seeded with clayey foothill seed mixture November, 1991
- Seeded with cobbly foothill seed mixture November, 1991
- Locations where hay mulch was spread December, 1991
- Area not seeded during 1991 (grass species already well established)

N

0 450 900

Mapscale 1 : 5400
1 inch = 450 feet

Prepared by:

EG&G ROCKY FLATS

Rocky Flats Plant
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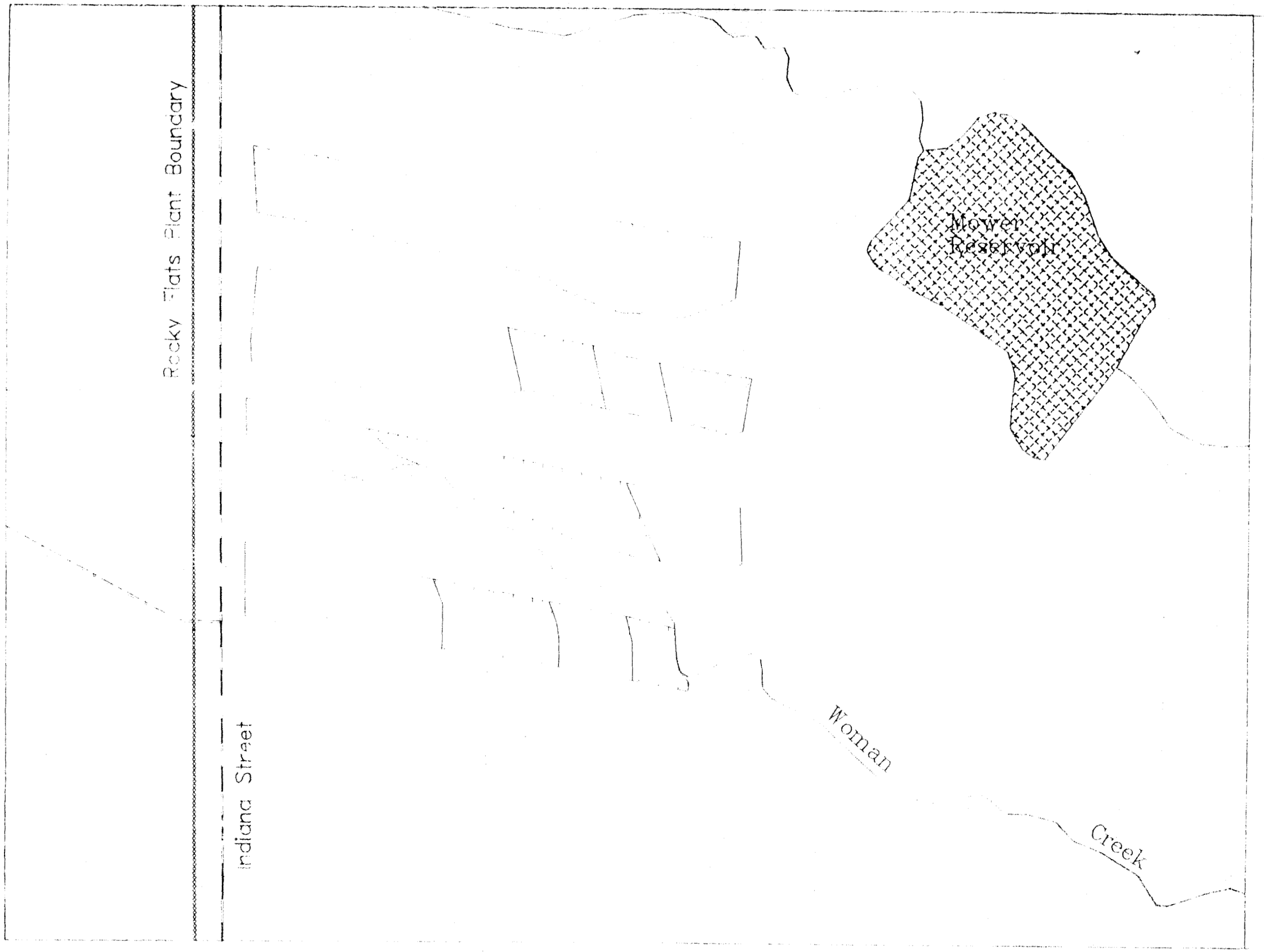
Golden, Colorado 80402-0464

Date: 1-28-92



(Figure 2)
Map of South Area (Sec. 18) of Jefferson County Remediation Land Showing Results of Summer 1991 Revegetation Activities

- Streams, ditches, and other drainage features
- Medium duty roads
- Unimproved dirt roads
- Rocky Flats Plant boundary
- Surface water impoundments
- Seeded with clayey foothill seed mixture November, 1991
- Seeded with cobbly foothill seed mixture November, 1991
- Area not seeded during 1991 (grass species already well established)

0 242 484

Mapscale 1 : 2900
1 inch = 242 feet

Prepared by

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Date 1-28-92